In the Claims:

Please amend Claims 1, 2, 6, 26, 27, 31-33, 35, and 37-39, and cancel Claims 5, 7, 28-30, 34, and 36 without prejudice, and add new Claim 44. A complete copy of the claims as amended appears below.

1. (Currently Amended) A solid state laser gain medium having first and second ends along a laser optical axis in which ~~at least one~~ each end is profiled concave to provide a level of thermal ~~lensing~~ lens compensation at a ~~predetermined~~ desired operating pump ~~power, in which~~ power such that the ~~predetermined~~ beam has a beam quality ~~is centered substantially on a maximum~~ maximized at ~~the predetermined~~ the desired operating pump ~~power.~~ power, wherein the solid state laser gain medium is operable in a laser oscillator cavity that is optically symmetrical and includes flat cavity end reflectors.

2. (Currently Amended) A solid state laser gain medium as defined in Claim 1, ~~in which both ends of the solid state laser gain medium are profiled.~~ wherein the solid state laser gain medium is operable in a laser oscillator cavity arranged to incorporate a Q-switch or further gain modules.

3. (Previously Presented) A solid state laser gain medium as defined in Claim 1, in which the solid state laser gain medium is formed of Nd:YAG.

4. (Previously Presented) A laser oscillator cavity including a solid state laser gain medium as defined in Claim 1.

5. (Cancelled).

6. (Currently Amended) A laser oscillator cavity as defined in Claim 4, further comprising:

a Q-switch having first and second acousto-optic cells ~~and~~ in respective first and second non-parallel polarization orientations, wherein at least one of said first and second acousto-optic cells has a reflective end forming a cavity end reflector.

7. (Cancelled).

8. (Previously Presented) A laser oscillator cavity as defined in Claim 4, further comprising:

a frequency converter; and

a frequency selective reflector between the solid state laser gain medium and the frequency converter.

9. (Previously Presented) A laser including a solid state laser gain medium as defined in Claim 1.

10. (Previously Presented) A laser as defined in Claim 9, further comprising:

a side-pumping diode element.

11-22. (Cancelled).

23. (Previously Presented) A laser ablation device comprising a laser as defined in Claim 9.

24-25. (Cancelled).

26. (Currently Amended) A laser amplifier ~~having:~~ including a solid state laser gain medium as defined in Claim 1, said laser amplifier further comprising:

a laser cavity; and

an amplifying module external to the laser cavity, said amplifying module sharing a common axis of emission with said laser cavity and comprising an amplifier gain medium having first and second ends along said axis of emission;

whereby at least one of said first or second ends of said amplifying module is profiled to produce a lensing effect so as to directly couple light from said laser cavity into said amplifying module.

27. (Currently Amended) A laser amplifier as defined in Claim 26, wherein one or both of said first ~~an~~ or second ends of said amplifying module are profiled to form an amplifier lens having a predetermined focal length in order to maximize the beam quality of the laser cavity at a desired pump power, and wherein the amplifier lens is one of a refractive lens, a diffractive lens, or a GRIN lens.

28. (Cancelled).

29. (Cancelled).

30. (Cancelled).

31. (Currently Amended) A laser amplifier as defined in Claim ~~30,~~ 27, wherein said ~~lens of~~ at least one end of said solid state laser gain medium ~~and said~~ is profiled to form a first lens ~~of amplifier gain medium have~~ having a focal length that is substantially equal to the focal ~~lengths.~~ length of said amplifier lens.

32. (Currently Amended) A laser amplifier as defined in Claim ~~30,~~ 26, whereby said laser gain medium lens and said amplifier gain medium lens are concavely profiled.

33. (Currently Amended) A laser amplifier as defined in Claim 26, wherein said laser gain medium and said amplifying gain medium are pumped simultaneously, and wherein said laser gain medium pump and said amplifying pump have equal power.

34. (Cancelled).

35. (Currently Amended) A laser amplifier as defined in Claim 26, in which an input surface to the ~~amplifier~~ amplifying module is tilted.

36. (Cancelled).

37. (Currently Amended) A laser amplifier having:

a laser cavity; and

an amplifying module external to the laser cavity, said amplifying module sharing a common axis of emission with said laser cavity and comprising a laser gain medium having first and second ends along said axis of emission;

whereby at least one of said first or second ends is profiled so as to directly couple light from said laser cavity into said amplifying module;

wherein said laser gain medium and said amplifying medium are pumped simultaneously;

~~A~~ wherein in said module ~~as defined in Claim 33, in which,~~ for an amplifier medium comprising a rod of diameter D_R, length L_R, refractive index n_L, refractive index of air

n_{air}, and thermal focal length f_{th} arranged to receive an input beam from a laser having waist distance d_0 from the input rod end, the rod is profiled with a radius of curvature R given approximately by $R = \frac{d_0(4f_{th} - L_R)(n_L - n_{air})}{n_L(4f_{th} - L_R - 2d_0)}$.

38. (Currently Amended) A method of making a solid state laser ~~amplifier module~~ gain medium having first and second ends and further comprising flat cavity end reflectors along a laser optical axis, said solid state laser gain medium being for use in an optically symmetrical laser oscillator cavity arranged to produce a laser beam, said method comprising:

profiling concavely ~~at least one~~ each end ~~thereof~~ of the solid state laser gain medium to provide a level of ~~lensing~~ thermal lens compensation at a predetermined operating pump ~~power, arranged such that, in use, the amplifier can be directly coupled to a laser of predetermined parameters.~~ power in order to maximize the beam quality of the beam at said desired operating pump power.

39. (Currently Amended) A method of designing a laser amplifier ~~comprising~~ ~~identifying~~ having a profile as defined in Claim ~~34.~~ 37.

40-42. (Cancelled).

43. (Previously Presented) A laser assembly comprising a gain medium as defined in Claim 1 and an amplifier as defined in Claim 26 coupled therewith.

44. (New) A module as defined in Claim 33, in which, for an amplifier medium comprising a rod of diameter D_R, length L_R, refractive index n_L, refractive index of air n_{air}, and thermal focal length f_{th} arranged to receive an input beam from a laser gain medium having waist distance d_0 from the input rod end, the rod is profiled with a radius of curvature R given approximately by $R = \frac{d_0(4f_{th} - L_R)(n_L - n_{air})}{n_L(4f_{th} - L_R - 2d_0)}$.